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Lab 6

```
import random

class Environment:
    def __init__(self):

        self.locationCondition = {
            'A': random.randint(0, 1),
            'B': random.randint(0, 1),
            'C': random.randint(0, 1),
            'D': random.randint(0, 1)
        }

class SimpleReflexVacuumAgent:
    def __init__(self, environment):
        self.environment = environment
        self.score = 0

        self.vacuumLocation = random.choice(['A', 'B', 'C', 'D'])

        print("Initial environment conditions:",
self.environment.locationCondition)


        print(f"Vacuum is randomly placed at Location
{self.vacuumLocation}.")
        self.clean_location(self.vacuumLocation)


        locations = ['A', 'B', 'C', 'D']
        for location in locations:
            if location != self.vacuumLocation:
                self.move_and_clean(location)


        print("Final environment conditions:",
self.environment.locationCondition)
        print("Performance Measurement: " + str(self.score))

    def clean_location(self, location):
```

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```
        print(f"Location {location} is {'Dirty' if
self.environment.locationCondition[location] == 1 else 'Clean'}.")
        if self.environment.locationCondition[location] == 1:
            self.environment.locationCondition[location] = 0
            self.score += 1
            print(f"Location {location} has been Cleaned.")
        else:
            print(f"Location {location} is already Clean.")

    def move_and_clean(self, location):
        print(f"Moving to Location {location}...")
        self.clean_location(location)


theEnvironment = Environment()
theVacuum = SimpleReflexVacuumAgent(theEnvironment)
```

Output: